Montana Board of Oil and Gas Conservation
Environmental Assessment

Operator: XTO Energy, Inc.
Well Name/Number: Craig 14X-10
Location: SW SW Section 10 T24N R56E
County: Richland **, MT; Field (or Wildcat)** Wildcat

Air Quality

(possible concerns)
Long drilling time: No, 25-35 days drilling time.
Unusually deep drilling (high horsepower rig): Triple derrick rig 1000 HP to drill a single lateral horizontal Bakken Formation well, 17,809'MD/10,404'TVD.
Possible H2S gas production: Slight
In/near Class I air quality area: No Class I air quality area.
Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 75-2-211.

Mitigation:
X Air quality permit (AQB review)
__ Gas plants/pipelines available for sour gas
__ Special equipment/procedures requirements
__ Other:_____
Comments: Existing gas pipelines in the area.

Water Quality

(possible concerns)
Salt/oil based mud: Yes to intermediate string hole is invert oil based drilling fluids. Horizontal hole to be drilled with brine water. Surface casing hole to be drilled with freshwater and freshwater mud.
High water table: No high water table anticipated.
Surface drainage leads to live water: No, closest drainage is an unnamed ephemeral tributary drainage to the North Fork Lone Tree Creek, adjacent to the northeast corner of this location.
Water well contamination: No, closest water wells are about 1mile to the northwest of this location. The well is 80' in deep. 1,850' of surface casing will be set and cemented to surface to protect groundwater.
Porous/permeable soils: No, sandy silty clay soils.
Class I stream drainage: No, Class I stream drainages.

Mitigation:
X Lined reserve pit
X Adequate surface casing
__ Berms/dykes, re-routed drainage
__ Closed mud system
__ Off-site disposal of solids/liquids (in approved facility)
__ Other: _____

Comments: 1850' surface casing well below freshwater zones in adjacent water wells. Also, covering Fox Hills aquifer. Adequate surface casing and BOP equipment to prevent problems.

Soils/Vegetation/Land Use

(possible concerns)
Steam crossings: None, crossing only an ephemeral drainages. .
High erosion potential: No, moderate cut up to 10.1' of cut and small fill up to 8.4', required.
Loss of soil productivity: None, location to be restored after drilling well, if nonproductive. If productive